United States Department of the Interior

BUREAU OF RECLAMATION
Reclamation Service Center
P.O. Box 25007
Building 67, Denver Federal Center
Denver, Colorado 80225-0007

IN REPLY REFER TO:

D-8210
ENV-4.00

May 4, 2000

Wendy Halverson Martin
Restoration Coordinator
CALFED Ecosystem Restoration Program
1416 Ninth Street, Room 1151
Sacramento, CA 95814

Dear Ms. Halverson Martin:

The enclosed proposal is in response to the Ecosystem Restoration 2001 Proposal Solicitation for Ecosystem Restoration Program projects to improve the health of the Bay-Delta ecosystem. The study would involve anadromous fish restoration on the upper San Joaquin River by developing a flow regime to protect fall-run chinook salmon habitat and improve water temperature. This is a research study which would use existing data as input into habitat and temperature computer simulation models and would not involve any physical action on the ground. Thus, we should be exempt from the public notification requirement described in the solicitation package.

We appreciate the opportunity to submit this proposal and look forward to hearing from you.

Sincerely,

Ronald J. Sutton

Ronald J. Sutton
Fishery Biologist

Enclosure

Attachment H

Proposal # 2001- A200 (Office Use Only)

PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: Anadromous Fish Restoration Study on the Upper San Joaquin River
Applicant Name: U.S. Bureau of Reclamation - Ronald J. Sutton
Contact Name: Ronald J. Sutton
Mailing Address: U.S. Bureau of Reclamation, P.O. Box 25007 (D-8210), Denver CO 80225
Telephone: (303) 445-2495
Fax: (303) 445-6328
Email: rsutton@do.usbr.gov

Amount of funding requested: $ 92,120
Some entities charge different costs dependent on the source of the funds. If it is different for state or federal funds list below.
State cost _____ Federal cost _____

Cost share partners? ____**Yes** __X__**No**
Identify partners and amount contributed by each _____

Indicate the Topic for which you are applying (check only one box).

- ☒ Natural Flow Regimes
- ☐ Nonnative Invasive Species
- ☐ Channel Dynamics/Sediment Transport
- ☐ Flood Management
- ☐ Shallow Water Tidal/ Marsh Habitat
- ☐ Contaminants
- ☐ Beyond the Riparian Corridor
- ☐ Local Watershed Stewardship
- ☐ Environmental Education
- ☐ Special Status Species Surveys and Studies
- ☐ Fishery Monitoring, Assessment and Research
- ☐ Fish Screens

What county or counties is the project located in? Fresno, Madera

What CALFED ecozone is the project located in? See attached list and indicate number. Be as specific as possible 12.4

Indicate the type of applicant (check only one box):

- ☐ State agency
- ☐ Public/Non-profit joint venture
- ☐ Local government/district
- ☐ University
- ☐ Other: _____
- ☒ Federal agency
- ☐ Non-profit
- ☐ Tribes
- ☐ Private party

Indicate the primary species which the proposal addresses (check all that apply):

- ☐ San Joaquin and East-side Delta tributaries fall-run chinook salmon
- ☐ Winter-run chinook salmon
- ☐ Spring-run chinook salmon
- ☐ Late-fall run chinook salmon
- ☒ Fall-run chinook salmon
- ☐ Delta smelt
- ☐ Longfin smelt
- ☐ Splittail
- ☐ Steelhead trout
- ☐ Green sturgeon
- ☐ Striped bass
- ☐ White Sturgeon
- ☐ All chinook species
- ☐ Waterfowl and Shorebirds
- ☐ All anadromous salmonids
- ☐ Migratory birds
- ☐ American shad
- ☐ Other listed T/E species: _____

Indicate the type of project (check only one box):

- ☒ Research/Monitoring
- ☐ Watershed Planning
- ☐ Pilot/Demo Project
- ☐ Education
- ☐ Full-scale Implementation

Is this a next-phase of an ongoing project? Yes ____ No X
Have you received funding from CALFED before? Yes ____ No X

If yes, list project title and CALFED number_____

Have you received funding from CVPIA before? Yes ____ No X

If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable):

_____

By signing below, the applicant declares the following:

- The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Ronald J. Sutton
Printed name of applicant

Ronald J. Sutton
Signature of applicant

ANADROMOUS FISH RESTORATION STUDY ON THE UPPER SAN JOAQUIN RIVER

Ronald Sutton and Richard Raines
U.S. Bureau of Reclamation, Technical Service Center, Ecological Planning and Assessment Group (D-8210), Denver, CO

Executive Summary

The U.S. Bureau of Reclamation (Reclamation) proposes to develop an instream flow regime that mimics the natural flows which would improve water temperature conditions and significantly increase the numbers of adult returning fall-run chinook salmon in the upper mainstem San Joaquin River. This study would address the scientific uncertainty of whether natural flow regimes are the primary limiting factor in the recovery of the fall-run chinook salmon in the San Joaquin River. The Instream Flow Incremental Methodology (IFIM) would be used to develop these flow recommendations. The recommended flow regime would include a minimum flow to maintain suitable water temperatures for all life stages of the fall-run chinook salmon. This would be determined using the Stream Network Temperature Model (SNTEMP). A monitoring plan would be developed to determine the biological response to implementation of this flow regime. This monitoring plan would be designed based on the assumptions that the recommended flow regime would be implemented, an established population of fall-run chinook salmon would be able to use the mainstem San Joaquin River as a migration corridor up to Friant Dam, and through the adaptive management process, adjustments in flow could be made, if necessary, depending on the biological response.

1. Statement of the Problem

a. Problem

Anadromous fish restoration on the San Joaquin River is problematic because of widespread and severe river habitat degradation, and because fall-run chinook salmon (*Oncorhynchus tshawytscha*) has a complex life cycle and is vulnerable to the impacts in freshwater and marine systems. Degradation of the San Joaquin River began in the late 1800's and early 1900's and today, many entities (private, local, State, and Federal governments) are actively engaged in routing water through an extensive network of canals, bypasses, and diversions. The cumulative effects of these efforts have created a river that is intermittently dry (Gravelly Ford to Mendota Pool (17 miles) and Sack Dam to Salt Slough confluence (54 miles)) and the existing fishery is dominated by introduced species. Friant Dam, owned and operated by Reclamation, is the most significant structure regulating streamflow in the upper San Joaquin River. Both spring-run and fall-run chinook salmon were extirpated when this dam became fully operational in 1951 [U.S. Fish and Wildlife Service (USFWS) 1994]. Naturally producing salmon populations persist in the Merced, Tuolumne, and Stanislaus Rivers with the aid of extensive habitat restoration efforts, including delivery of fishery flows, and artificial propagation.

The USFWS (1994) conducted a study to determine the instream flow requirements for fall-run chinook salmon in the upper San Joaquin River. However, they only looked at the adult passage and spawning life stages and they did not recommend a flow regime to re-establish and maintain the salmon run. Raines (1992) used various sources to obtain a general idea of salmon flow needs for the San Joaquin River, but he did not conduct a detailed instream flow analysis.

b. Conceptual Model

This study would address the scientific uncertainty of whether natural flow regimes are the primary limiting factor in the recovery of the fall-run chinook salmon in the San Joaquin River. Spring-run chinook salmon would not be considered because the adults need cold water for holding over in the summer and their young typically rear a year or more in fresh water before emigrating. Suitable habitat for these activities may no longer exist on the San Joaquin River (USFWS 1994). We would analyze the potential for restoration of fall-run chinook salmon to the mainstem river below Friant Dam by developing an annual flow regime that mimics the natural hydrograph for the benefit of all life stages (i.e., incubating eggs, fry, juvenile, and smolt emigration) in addition to the adult passage and spawning life stages analyzed by USFWS (1994). This flow regime would include a minimum flow to maintain suitable water temperatures for all life stages of the fall-run chinook salmon. The study would assume that an established population of fall-run chinook salmon would be able to use the mainstem of the San Joaquin River as a migration corridor (i.e., fish ladders would be installed at all dams below Friant Dam). A monitoring plan would be developed to determine the biological response to implementation of this flow regime.

c. Hypothesis Being Tested

The following hypothesis would be tested with this study:

Development of an instream flow regime that mimics the natural flows would improve water temperature conditions and significantly increase the numbers of adult returning fall-run chinook salmon in the upper mainstem San Joaquin River.

This hypothesis addresses the Ecosystem Restoration Program (ERP) goals of 1) recovery of at-risk native species, 2) rehabilitating natural processes in the Bay-Delta system, 3) restoring functional habitats, and 4) improving water quality. Temperature requirements for the various life stages would be used as standards for improving water temperatures. Criteria for testing the biological response of the recommended flow regime would be included in a monitoring plan.

d. Adaptive Management

The biological response to the recommended flow regime would be determined through a monitoring program. This program would be developed based on the assumptions that the recommended flow regime would be implemented, a population of fall-run chinook salmon

would be established and able to use the mainstem San Joaquin River as a migration corridor, and through the adaptive management process, adjustments in flow could be made if the recommended flows do not result in a significant increase in numbers of returning adult salmon.. The monitoring plan would focus on measuring the following parameters: daily stream flows, numbers of returning adult fall-run salmon, and water temperature.

2. Proposed Scope of Work

a. Geographic Boundaries of Project

The study would focus on the upper upper San Joaquin River from the outflow of Friant Dam downstream about 60 miles to the Mendota Pool (Figure 1). This river segment consists mainly of pool habitat with scattered runs and riffles, often far apart (USFWS 1994). The project would be located in Madera and Fresno counties and in the San Joaquin River Mendota Pool to Gravelly Ford (12.3) and Gravelly Ford to Friant Dam (12.4) ecozones.

b. Approach

The instream flow analysis would utilize the Instream Flow Incremental Methodology (IFIM) (Bovee et al.1998). Habitat Suitability Criteria (HSC) from the Tuolumne and Stanislaus Rivers would be used in addition to existing hydraulic modeling data taken at three study sites by the USFWS (1994). We assume that no additional field work would be necessary to collect hydraulic or habitat suitability data. Computer models [Physical Habitat Simulation System (PHABSIM)] contained within the IFIM would be used to determine the relationships between streamflow and usable habitat for each life stage.

Existing hydrologic data would be retrieved from U.S. Geological Survey (USGS) gaging station records. Gaging stations located within the study area boundaries are: Friant Dam, 2 miles below Friant Dam, Donny Bridge, Skaggs Bridge, Gravelly Road, and the bifurcation structure (Eastside or Chowchilla Bypass).

Simulation models within PHABSIM would be used to conduct a time series analysis that converts the historic hydrograph to fish habitat. A final flow regime that mimics the natural hydrograph would be recommended based on the outcome of this analysis. This means imitating the relative timing, duration, and magnitude of pre-disturbance flows for the benefit of the species.

The Stream Network Temperature Model (SNTEMP) developed by the USFWS (Theurer et al. 1984) would be used to determine the minimum streamflows necessary to maintain suitable temperatures for all life stages of fall-run chinook salmon. This was a recommendation of the USFWS (1994) and included in the Central Valley Action Plan [California Department of Fish and Game (CDFG) 1993]. We assume that existing data would be available for input into this

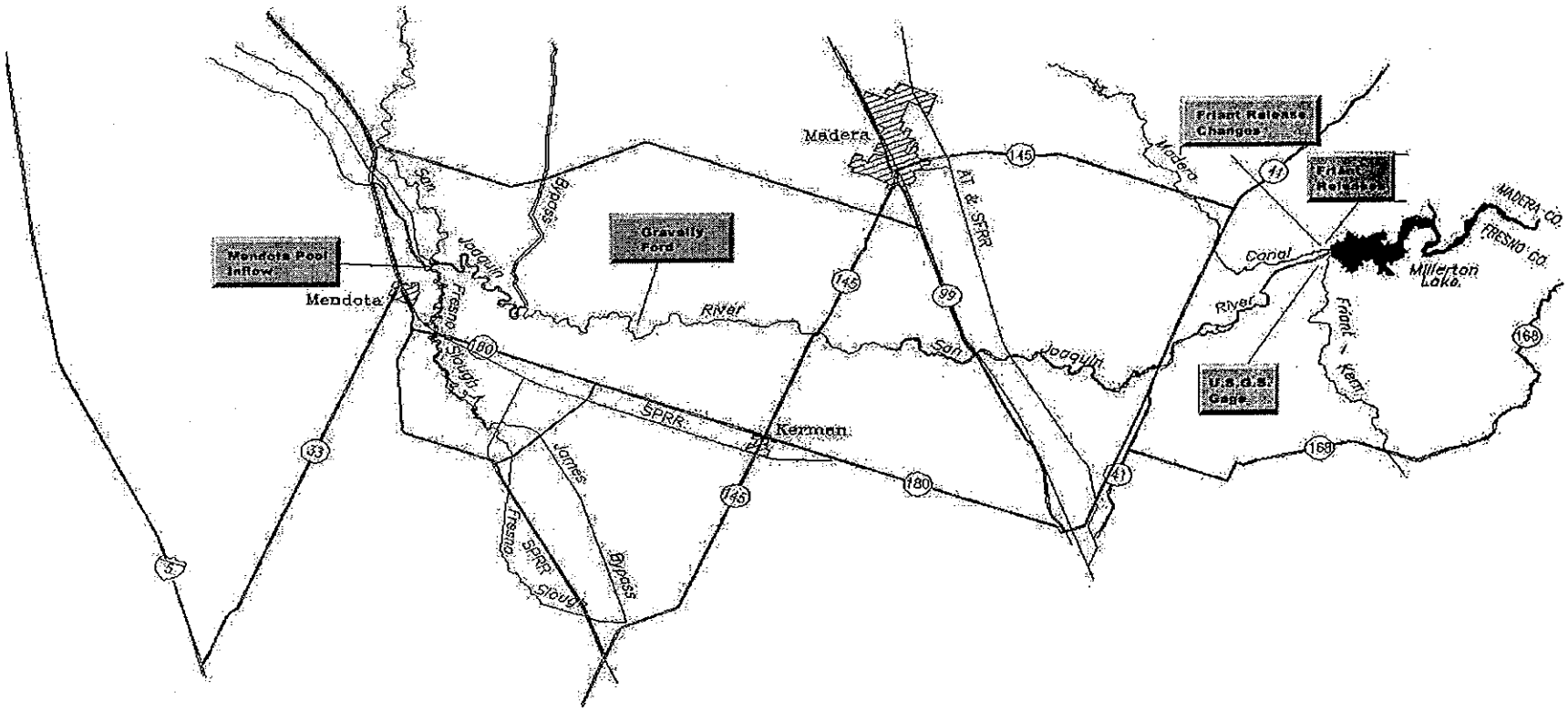

Figure 1. Study area for anadromous fish habitat study.

model. The SNTEMP model uses meteorological (e.g., relative humidity, air temperature, wind speed) hydrological (e.g., discharge and water temperature), and stream geometry (e.g., average stream width, elevations of each node) input parameters.

The following tasks are outlined, by life history stage, that would be necessary to restore a natural salmon run (fall-run) to the San Joaquin River below Friant Dam (Raines 1992). It is assumed, for the present, that the mainstem San Joaquin River could be restored as a migration corridor and that river flow is the primary limiting factor for recovery. We assume that fish ladders installed at dams downstream from Friant Dam would allow migration of adult fall-run chinook salmon.

1. Upstream passage (adult migration): determination and provision of flows (general goal of an in-channel water depth ≥ 0.5 feet and water velocities ≤ 2.0 feet per second (fps)) (to include timing and protection of flows - water-rights administration), and water temperatures (≤ 68° F from September 1-November 30).

2. Spawning: determine flow (general goal is an in-channel water depth of 1.0-3.0 feet, pool depth of 3.5 to 9 feet, and water velocities of 1.0-3.5 fps), and water quality to include temperature (42-57.5° F) needs for the upper San Joaquin River.

3. Incubation and Rearing: determine flow (general flows of 0.3 to 2.4 fps, in-channel depths of 0.5 to 2 feet, and incubation intergravel flows of ≥ 26 feet per hour), water quality to include temperature (incubation - 53-57.5° F, and rearing - 53-65° F).

4. Downstream passage (outmigration): determination and provision of adequate flows to include timing and protection of flows and water-rights administration, temperatures (≤ 68° F from April 1-June 30).

c. Monitoring Plan

A monitoring plan would be designed as part of this project to determine the biological response to the recommended flow regime. The plan would focus on measuring stream flows, adult salmon numbers, and water temperature in the upper San Joaquin River. Criteria for testing the hypothesis of recommended flows significantly increasing numbers of returning adult salmon would be defined in this plan. Implementation of this plan is not considered in this proposal.

d. Data Handling and Storage

Data would be photocopied and secured in office files. All data input into the database would be proofread to ensure accuracy. Only authorized personnel would have access to the data. Final modeling outputs would be submitted in hard copy and in an electronic format compatible with existing databases being developed as part of the overall CALFED restoration effort (i.e., Microsoft Access).

e. Expected Products

A final report would be available within 3 months after completion of the computer simulations. In addition to a recommended flow regime, the final report would include summaries and evaluations of all data analyzed; and a monitoring plan. The final report would be submitted to the CALFED Bay-Delta Program and the Friant Water Users Authority and the coalition of environmental and fishing organizations led by the Natural Resources Defense Council (NRDC Coalition).

In addition to the final report, fiscal and programmatic reports would be forwarded to CALFED quarterly (10th day of the month following the end of each quarter (January, April, July, and October)) for review. These reports would include the financial status of the project (amount invoiced), description of activities performed during the quarter, and percentage of each task completed, deliverables produced, problems and delays encountered, and a description of any amendments or modifications to the contract. The Principal Investigator would also attend one annual meeting with CALFED to discuss all aspects of the project. One site visit would be conducted by Reclamation.

f. Quality Control

Reclamation would formalize a Quality Assurance Project Plan (QAPP) including periodic quality assurance/quality control (QA/QC) review and evaluation prior to initiation of the project. The plan would detail the data collection methods and describe QA/QC procedures to be used during the Project. Elements of the plan would include the information listed in Table 1, as well as any additional information required by the project officer.

Table 1 – Quality Assurance Plan Elements

Project Description
Objective and Scope Statement
Data Usage
Project Fiscal Information
Schedule of Tasks And Products
Project Organization and Responsibility
Data Quality Requirements and Assessments
Documentation, Data Reduction, and Reporting
Data Validation
Corrective Action
Reports

g. Work Schedule

The proposed project schedule is summarized in Table 2.

Table 2 - Proposed Project Schedule

Task	Months from Project Start									
	1	2	3	4	5	6	7	8	9	10
Development of a Detailed Quality Assurance Project Plan	x									
Study Site Visit		x								
PHABSIM Simulations		xxx								
Temperature Simulations			xxxxxxxxxxxxx							
Develop Flow Recommendations							xxxx			
Monitoring Plan							xxxxxxx			
Project Documentation and Management	xxxxxxxxxxxxxxxxxxxxxxxxxxxxx									
Final Report										x

h. Feasibility

This project is feasible within the time period outlined above given the following assumptions:

(a) no additional field work is necessary to collect hydraulic and habitat suitability information;
(b) input data for the SNTEMP model are available.

Implementation of the final flow recommendations would be contingent upon water exchanges to ensure that there are no adverse impacts to Friant water users' supplies.

3. ERP Goals and CVPIA Priorities

This study addresses the ERP goals of 1) recovery of at-risk native species, 2) rehabilitating

natural processes in the Bay-Delta system, 3) restoring functional habitats, and 4) improving water quality. All life stages of fall-run chinook salmon would be addressed for the San Joaquin River. The study assumes that stream flows would restore physical habitats for these various life stages and improve water temperature. This study would also address the Central Valley Project Improvement Act (CVPIA), Section 3406(c), for the San Joaquin River to address fishery habitat concerns, including streamflow and water quality improvements needed to reestablish and sustain naturally reproducing anadromous fisheries from Friant Dam to its confluence with the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

Development of a water temperature model is a priority in the Central Valley Action Plan to determine habitat needs for anadromous fish in the San Joaquin River (CDFG 1993).

4. Relationship to Other Ecosystem Restoration Projects

This study would have a direct connection with the existing San Joaquin River Pilot Flow Program being funded by CALFED (see Friant Water Users Authority internet site: www.fwua.org). The Pilot Flow Program was designed to help provide water to the riparian vegetation (e.g., willow and cottonwood) that was established as a result of above average runoff on the San Joaquin River during the past few years. The results of the riparian study could be integrated with our proposed salmon study to improve the overall restoration of the San Joaquin River.

The Friant Water Users Authority and a coalition of environmental and fishing organizations led by the Natural Resources Defense Council (NRDC Coalition) have recently prepared a scope-of-work (SOW) for a contractor to develop a Restoration Plan and Water Supply Plan for the San Joaquin River. One of the goals of this SOW is to create flow and temperature regimes that favor native aquatic species. Our study would address this goal and could be integrated within these plans to help restore natural ecological functions and hydrologic processes of the San Joaquin River below Friant Dam. The Friant Water Users Authority is aware of this proposal.

5. Qualifications

The Ecological Planning and Assessment Group of the Bureau of Reclamation would lead the project. Ron Sutton would serve as the Principal Investigator. Mr. Sutton, a fishery biologist in the Ecological Planning and Assessment Group, would be responsible for directing all aspects of the study, including coordination with appropriate agencies, data analysis, budget tracking, client interaction, and report preparation. Mr. Sutton would allocate about 25 percent of his time to this effort. Mr. Sutton would always be present during the project. In addition, Rich Raines, a biologist with Reclamation, would provide 10 percent of his time for technical support and assist with computer simulations, development of flow recommendations, and designing the monitoring plan.

a. Experience

Mr. Ron Sutton has over 18 years experience as a fishery biologist. He has worked for Reclamation for five years preparing/reviewing fishery reports, including portions of environmental impact statements, environmental assessments, and biological assessments. In addition, he develops and implements fishery studies, including instream flow studies using IFIM, on Reclamation waters and operating projects to further fishery resource management. He also assists with endangered fish recovery programs. Before Reclamation, he worked at a USFWS fish health facility for 14 months. He also has worked for private environmental consulting firms. Mr. Sutton has conducted instream flow and baseline fishery surveys throughout the western United States and is a certified fisheries scientist by the American Fisheries Society. He has a B.S. in fishery biology and an M.A. in zoology. A listing of sample projects managed by Mr. Sutton is provided in Table 3.

Table 3 - Studies Managed by Ron Sutton

Project Name	Location
Salton Sea Desert Pupfish Investigations	Salton Sea, California
Platte River EIS - Forage fish analysis using SNTEMP and IFIM	Central Platte River in Nebraska
Navajo Dam Low Flow Study-trout habitat analysis using IFIM	San Juan River in New Mexico
Green River Tailwater Study-technical representative on cooperative agreement-fish and benthos sampling	Green River in Utah
Blue Mesa Reservoir Limnology Study-technical representative on cooperative agreement	Blue Mesa Reservoir in Colorado
FERC Relicensing Instream Flow Study-used IFIM to determine flow releases for native aquatic species	Icacos River in Puerto Rico
Caltrans EIR/EIS aquatic discipline and biological assessment for federally endangered unarmored threespine stickleback	Emidio, California to the Los Angeles Basin
Celeron, All American, and Getty Pipelines EIR/EIS aquatic resource discipline-baseline and impacts	Santa Barbara County, California to McCarney, Texas
Diamond Shamrock EIS Instream Flow Study-impact assessment on anadromous salmonids using IFIM	Chuitna River Drainage, Alaska
Northwest Power Planning Council-impacts of historical development on salmon and steelhead populations	Columbia River Basin
Ruedi Reservoir Water Sales Project EA - Instream flow study	Western Colorado
Larimer/Weld Regional Council of Governments Copper-Silver Bioassay Study	Loveland, Colorado
American Electric Power Service Corp-Pre-EIS freshwater mussel sampling	Ohio and Kanawha Rivers in West Virginia

Mr. Rich Raines has over 28 years experience as a fish and wildlife biologist. He has worked for Reclamation for the past 10 years preparing/reviewing fish and wildlife related reports, including portions of environmental impact statements, environmental assessments, and biological assessments. Prior to being employed by Reclamation, he spent 2 years with the Environmental Protection Agency, 12 years with the USFWS, and 4 years with the U.S. Army Corps of Engineers. In addition, he has developed and implemented numerous fishery-related studies on State waters and operating projects to further fishery resource management. He also assists with endangered fish recovery programs. Mr. Raines has conducted baseline fishery surveys throughout the western United States. He has a B.S. in biology and an M.S. in zoology and his IFIM- related experience is extensive.

Mr. Raines participated in two of the first instream flow evaluations to use the IFIM (County Line Reservoir, Missouri, and James River Section 404, Clean Water Act Permit, city of Springfield, Missouri), as a project biologist/co-biologist, 1978-1979.

As the lead biologist, Mr. Raines conducted over 20 major project IFIM evaluations (field evaluations and computer processing). As a supervisor, Mr. Raines guided and reviewed the study design and IFIM evaluation of 14 major project applications.

6. Cost

a. Budget

Costs for the proposed study are detailed in Table 4.

Table 4 - Budget for anadromous fish restoration study on the San Joaquin River

Year	Task	Direct Labor Hours	Salary	Labor	Travel	Total Cost
Year 1	Quality Assurance Plan	40	Principal Investigator (PI)-$75/hr (100%)	$3,000		$3,000
	Site Visit	80	PI - 50% Biologist-$89/hr-50%	$6,560	$2,000	$8,560
	PHABSIM Modeling	160	PI - 50% Biologist - 50%	$13,120		$13,120
	Temperature Modeling	480	PI - 50% Biologist - 50%	$39,360		$39,360
	Flow Recommendations	80	PI - 50% Biologist - 50%	$6,560		$6,560
	Monitoring Plan	160	PI - 50% Biologist - 50%	$13,120		$13,120
	Meetings	24	PI - 100%	$1,800	$600	$2,400
	Project Management	80	PI - 100%	$6,000		$6,000
Total Cost				**$89,520**	**$2,600**	**$92,120**

7. Compliance with Standard Terms and Conditions

Reclamation has reviewed the standard terms in the solicitation and agrees to comply with these terms.

8. Literature Cited

Bovee, K.D., B.L. Lamb, J.M. Bartholow, C.B. Stalnaker, J. Taylor, and J. Hendriksen. 1998. Stream habitat analysis using the Instream Flow Incremental Methodology. U.S. Geological Survey, Biological Resources Division Information and Technology Report. USGS/BRD-1998-0004. viii +131 pp.

California Department of Fish and Game. 1993. Restoring Central Valley Streams: A Plan for Action. San Joaquin River. pp. VII-82-VII-90.

Raines, R. 1992. Summary of Friant Fishery Issues with Preliminary Instream Flow Recommendations. U.S. Bureau of Reclamation. 15 pp.

Theurer, F.D. K.A. Voos, and W.J. Miller. 1984. Instream water temperature model. Instream Flow Information Paper 16. U.S. Fish and Wildlife Service. FWS/OBS-84/15 v.p.

U.S. Fish and Wildlife Service. 1994. The relationship between instream flow, adult immigration, and spawning habitat availability for fall-run chinook salmon in the upper San Joaquin River, CA. Final Report submitted to U.S. Bureau of Reclamation. 56 pp.

Threshold Requirements

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. *Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.*

1. **Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?**

   _____ YES X NO

2. **If you answered yes to # 1, identify the lead governmental agency for CEQA/NEPA compliance.**

   _____
   Lead Agency

3. **If you answered no to # 1, explain why CEQA/NEPA compliance is not required for the actions in the proposal.**

   No Federal action is being proposed. This is a research study using existing data.

4. **If CEQA/NEPA compliance is required, describe how the project will comply with either or both of these laws. Describe where the project is in the compliance process and the expected date of completion.**

5. **Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?**

   _____ YES X NO

   If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field projects for which specific field locations have not been identified will be required to provide access needs and permission for access with 30 days of notification of approval.

6. **Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.**

LOCAL		
Conditional use permit	___	
Variance	___	
Subdivision Map Act approval	___	
Grading permit	___	
General plan amendment	___	
Specific plan approval	___	
Rezone		___
Williamson Act Contract cancellation	___	
Other _____ (please specify)		
None required	X	
STATE		
CESA Compliance	___	**(CDFG)**
Streambed alteration permit	___	**(CDFG)**
CWA § 401 certification	___	**(RWQCB)**
Coastal development permit	___	**(Coastal Commission/BCDC)**
Reclamation Board approval	___	
Notification	___	**(DPC, BCDC)**
Other _____ (please specify)		
None required	X	
FEDERAL		
ESA Consultation	___	**(USFWS)**
Rivers & Harbors Act permit	___	**(ACOE)**
CWA § 404 permit	___	**(ACOE)**
Other _____ (please specify)		
None required	X	

DPC = Delta Protection Commission
CWA = Clean Water Act
CESA = California Endangered Species Act
USFWS = U.S. Fish and Wildlife Service
ACOE = U.S. Army Corps of Engineers

ESA = Endangered Species Act
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board
BCDC= Bay Conservation and Development Comm.

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. *Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.*

1. **Do the actions in the proposal involve physical changes to the land(i.e. grading, planting vegetation, or breeching levees) or restrictions in land use (i.e. conservation easement or placement of land in a wildlife refuge)?**

   _____ YES X NO

2. **If NO to # 1, explain what type of actions are involved in the proposal (i.e., research only, planning only).**

   Research only.

3. **If YES to # 1, what is the proposed land use change or restriction under the proposal?**

4. **If YES to # 1, is the land currently under a Williamson Act contract?**

   _____ YES _____ NO

5. **If YES to # 1, answer the following:**

   Current land use _____
   Current zoning _____
   Current general plan designation _____

6. **If YES to #1, is the land classified as Prime Farmland, Farmland of Statewide Importance or Unique Farmland on the Department of Conservation Important Farmland Maps?**

   _____ YES _____ NO _____ DON'T KNOW

7. **If YES to # 1, how many acres of land will be subject to physical change or land use restrictions under the proposal?**
   _____

8. **If YES to # 1, is the property currently being commercially farmed or grazed?**

   _____ YES _____ NO

9. **If YES to #8, what are** the number of employees/acre_____
   the total number of employees _____

10. Will the applicant acquire any interest in land under the proposal (fee title or a conservation easement)?

_____	X
YES	NO

11. What entity/organization will hold the interest?_____

12. If YES to # 10, answer the following:

Total number of acres to be acquired under proposal	_____
Number of acres to be acquired in fee	_____
Number of acres to be subject to conservation easement	_____

13. For all proposals involving physical changes to the land or restriction in land use, describe what entity or organization will:

manage the property	_____
provide operations and maintenance services	_____
conduct monitoring	_____

14. For land acquisitions (fee title or easements), will existing water rights also be acquired?

_____	_____
YES	NO

15. Does the applicant propose any modifications to the water right or change in the delivery of the water?

_____	X
YES	NO

16. If YES to # 15, describe_____

STATE OF CALIFORNIA

NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 19 (REV. 3-95)

U.S. Bureau of Reclamation

COMPANY NAME

The company named above (herinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), medical condition (cancer), age (over 40), marital status, denial of family care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

DATE EXECUTED

EXECUTED IN THE COUNTY OF

PROSPECTIVE CONTRACTOR'S SIGNATURE

Ronald J. Sutton

PROSPECTIVE CONTRACTOR'S TITLE

Fishery Biologist

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

U.S. Bureau of Reclamation